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Ms. Paula Pritz
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Subj: CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD COMMENTS ON PHASE I CHARACTERIZATION REPORT FOR NAVAL AIR STATION, MOFFETT FIELD

1. Enclosures (1) and (2) are provided for your review and response.

2. Should you have any questions or comments regarding this matter, the point of contact is Commander, Western Division, Naval Facilities Engineering Command (Attn: Mr. Paul Ko, Code 1813PK, (415) 244-2552).

Original signed by:
PAUL KO
Environmental Project Manager

Encl:
(1) CRWQCB Comments on Phase I Characterization Report for NAS Moffett Field
(2) CRWQCB ltr, File No. 2189.8009 (WKB), of 1 Oct 90

Copy to:
International Technologies, Inc., Martinez (Attn: Dennis Robinson)
International Technologies, Inc., Knoxville (Attn: Keith Bradley)
PRC Environmental Management, Inc. (Attn: Thomas Adkisson)

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STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

October 1, 1990
File No. 2189.8009 (WKB)

Commander
Western Division
Naval Facilities Engineering Command
Attn: Stephen Chao, Code 1813SC
900 Commodore Way, Building 1012
San Bruno, CA 94066-072

Dear Mr. Chao:

We reviewed the August 1990 Phase I Characterization Report for NAS Moffett Field and have the following comments:

GENERAL COMMENTS

1. Based on site descriptions in the report there appear to be several points at the base where groundwater exists above the A1 aquifer. This particularly applies to the two landfills and Site 6, but is potentially applicable to other sites also. This groundwater appears not to have been monitored. This groundwater is significant since it could act as a conduit for lateral migration of waste constituents. This is especially true in areas where there is a clay layer between the wastes and the A aquifer, in those areas the preferred route of migration would probably be along the top of the clay rather than down through it. Therefore, conclusions regarding the containment of waste constituents at sites which meet this description are not based on complete characterization of the site.

2. Throughout the site description portions of the report detections of common laboratory chemicals, e.g. acetone and methylene chloride, are dismissed as not significant. In order to disregard these data the blanks for the particular sample set should show the chemicals and there should be a quantifiable relationship between the blank and the environmental sample. The risk evaluation portion of the report did consider environmental samples greater than ten times the blanks as indicators of contamination, but it is unclear whether this same procedure was used throughout the report. If the procedure was not used then conclusions regarding these chemicals should be revised.

3. At several places in the site description portion of this report sporadic or inconsistent data are rejected as not reflecting environmental contamination. Any data point which is valid, i.e. not shown to be due to sampling or laboratory error, should be considered indicative of chemicals existing in the environment. Any claim that the chemicals are no

ENCLOSURE (1)

longer in the environment should include an explanation of the fate of that chemical. Any chemical that has newly shown up in the data should have an explanation of its source.

4. In several places in the report soil chemical data are compared to USGS data and concluded or implied not to be significant. The USGS data were based on a nation wide range and the comparisons were made to the highest value of that range. When local background data are an order of magnitude lower than the high end of the USGS range (e.g. chromium local range 16 to 102 ppm vs. USGS 2000 ppm, or lead local 1 to 47 ppm vs. USGS 700 ppm) it is inappropriate to compare site data with the USGS high end data in order to draw or imply any conclusions regarding soil contamination.

5. Conclusions in this report should not be based solely on the results of the Phase 1 investigation. The conclusions should also consider results of previous investigations, either by the Navy or other entities (e.g. MEW sites), at a particular site or justify why those results are not included in determining the conclusions.

SPECIFIC COMMENTS

p.1-3, last paragraph. The site description should include a description of the area currently occupied by the station prior to 1933 when the military began operations. Any man made conditions that may have led to current pollution problems should be included. Also include a map showing the original natural shoreline and any fill areas (either fill placed by the military or prior occupants). For all fill areas an evaluation of whether the fill contains waste material should be included.

p.1-9, third paragraph, last sentence. The phrase "low level of VOC contamination" should be quantified. We suggest an indication that concentrations are less than a specific number or less than a specific standard, e.g. MCLs or background.

p.2-8, last paragraph. This describes the construction of "most" wells. Please quantify this statement. The description gives one exception to a standard design. Was this the only exception? The description appears to go on to state that all wells have the same filter pack and slot size. Was a determination made that this slot size is adequately designed for all subsurface conditions encountered at the base?

p.2-9, third paragraph. When discussing length of screened

intervals please indicate the maximum length used at the base. Any lengths greater than 10 or 15 feet should be justified in terms of potential sample dilution.

p.2-10, second paragraph. Discussion of well development should summarize the criteria for determining when development is complete.

p.3-3, last paragraph.This description of the station-wide soil data base notes that several chemicals were found in several different soil types. Was a correlation developed between concentrations and soil types? Such a correlation could give a more accurate picture of background conditions and help decide when contamination has occurred. Also, soil data from known areas of contamination should not be used to establish background concentrations.

p.4-4, last paragraph. This is a follow-up to General Comment 1. It is unclear whether there is any groundwater monitoring outside the fill at the same depth as fill material. There should be wells at least adjacent to the deepest part of the fill (is this the trench?), and screened at the level of the fill bottom, to determine whether leachate is moving laterally out of the fill.

p.4-27, third paragraph. The second and third sentence of this paragraph conclude that organics in the landfill do not pose an environmental threat. The third sentence even presents some doubt as to whether there are any organics in the fill; "the minor amounts of soluble organics which may be present in the landfill". The data indicate that soluble organics are present, therefore the phrase "may be present" should be removed. Also the conclusion that the amounts are minor needs to be justified or removed. Previous comments in this letter address the potential impacts of this fill on the environment.

p.5-2, first paragraph. What is the basis of the assumption that 5 to 10% of hazardous wastes were disposed at this site?

p.5-3, second paragraph, last sentence. If borings show 21 feet of refuse below grade we believe this figure should be used to describe the depth of the fill. Data from borings are more reliable and accurate than interpretations of geophysical data.

p.5-4, last paragraph. Previous comments regarding monitoring potential lateral migration from fill areas also apply here.

p.5-12, last paragraph. In the second sentence the term

"significant" should be defined. Regarding the third sentence, the potential for lateral migration out of the fill has not been addressed.

p.6-11, last paragraph. The conclusion that groundwater degradation is limited to the Site 7 plume appears to be inconsistent with the results of the soil gas survey (p.6-10) which states that the source of soil organic compounds is unknown.

p.7-1, first paragraph. Further information on the pond would be useful. This could include depth of pond, whether the accumulated sludges were removed, and the relationship of remaining wastes to native soils and groundwater.

p.7-2, last paragraph. It does not appear from this description and Figure 7.2-1 that any soil borings were done at the location of the pond itself. This information would be useful to establish the type and amount of wastes remaining and their long term potential for environmental degradation.

p.7-8, fifth paragraph, and 7-9, last paragraph. Well W04-09 is identified as a B3 well and on Figure 7.2-1 it is identified as a B2 well.

p.8-17, last paragraph, first sentence. The statement that results do not indicate contamination by organic constituents appears inconsistent with the statement on page 8-9, forth paragraph, that fuel levels were observed in wells. This is an example of general Comment #5 regarding the use of data from past studies.

p.9-1, first paragraph. The site description should be expanded to include a physical description of the site. Was it a fill, pond, open dirt, excavated area, etc.? Were the wastes placed here all liquids, containers, other solid wastes?

Last paragraph. Why were the "AX" wells not sampled or the results of previous sampling not included? See General Comments #1 regarding sampling the first groundwater and #5 regarding using all available data sources in this study.

p.9-4, last paragraph. The conclusion of minimal impact on groundwater quality is questionable. Two wells, located adjacent to each other, on the east side of a site (when the general gradient is to the north) are insufficient to draw any conclusions on groundwater impacts.

p.12-11, fourth paragraph. Will the additional data called for here be collected in the area of soil gas hot spots?

p.13-8, first paragraph, last sentence. Were the monitoring wells located in areas where wastes would likely be found, such as low points in ditches where wastes collect or at areas where runway drainage patterns would direct wastes?

p.15-2, second paragraph. Why were no soil borings done within the bermed area, since on the previous page it states that the only way wastes left the area was through evaporation or percolation?

p.17-9, last paragraph. This concludes that there are elevated levels of inorganics of unknown origin. Are further investigations planned?

p.21-4, second paragraph. When describing the chemical constituents in down-gradient wells it should be noted that TCE is a breakdown product of PCE and therefore the chemicals in well W09-14(A2) may be attributable to this sump.

Last paragraph, second sentence. Regarding the phrase "Sump 66 is a possible source of PCE and TCE", the word "possible" should be deleted. This is based on the observations that the sump was cracked, contained PCE and downgradient wells contain PCE and TCE.

p.23-1, first paragraph. The chemicals of concern noted in this paragraph should be revised based on responses to other comments.

Second paragraph, first sentence. Some word or phrase is missing from this sentence.

p.23-4, first paragraph. It is unclear whether the retardation factor is intended to be an example of the calculation method or to be indicative of the behavior of TCE at the station. As an example we concur, however it should be noted that the subsurface consists of more than bay muds, with different retardation factors, if this is to be representative of TCE's behavior in the subsurface.

p.23-8, section 23.3. Our experience is that models are useful for comparing different remedial action alternatives and for predicting where to gather data for plume definition. Model predictions on the fate of contaminants without supporting field data have not been acceptable.

p.24-3, first paragraph, second and third complete sentences. We agree with the statement that a single positive result near the detection limit was assumed to be an artifact. However,

it is unclear why in the next sentence a single result well above the detection limit should be considered an exception to the previous sentence.

p.24-4, last paragraph. Dismissing all heavy metal data associated with high chlorides is not appropriate. Data should be presented which shows the background metal concentration due to saltwater intrusion and compared to metal concentrations at the waste sites. Samples from the Bay, the salt evaporation ponds, and groundwater with saltwater intrusion, but away from any known waste sites, could be used.

p.24-16, last paragraph. Regarding whether groundwater at the base is a potential source of drinking water, the Regional Board, in Resolution 89-039, has defined sources of drinking water as: all groundwaters with a TDS level of less than 3000 mg/l and which can be pumped at a sustained rate of 200 gallons per day.

p.24-21, second paragraph. This states that Table 24.4-1 regards ARARs, however Table 24.4-1 in Volume 2 regards water quality criteria for fish consumption (this appears to be Table 24.5-1 mentioned in the text on p.24-22).

p.24-29, last paragraph. The Table identified as 24-6.1 appears to be 24-6.2 in Volume 2.

p.25-1. Any changes based on responses to these comments should be reflected in the summary.

If you have any questions please call Wil Bruhns at 415-464-0838.

Sincerely,

Steve Morse, Chief
South Bay Division

cc: Lewis Mitani, EPA (H-7-3)
Lynn Nakashima, DHS-TSCD
Tom Iwamura, SCVWD
Lee Esquibel, SCCHD
Russ Frazer, City of Mountain View

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
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October 1, 1990
File No. 2189.8009(WKB)

Naval Facilities Engineering Command
Western Division, Code 18
Attention: Mr. Stephen Chao
Office of Environmental Management
900 Commodore Dr., Building 101
P.O. Box 727
San Bruno, CA 94066-0720

Dear Mr. Chao:

Pursuant to Section 15.1 of the Naval Air Station Moffett Field (NASMF) Federal Facilities Agreement, I have been designated the Regional Water Quality Control Board's project manager assigned to NASMF. At this time the alternate project manager position is vacant.

If you have any questions please call me at 415-464-0838.

Sincerely,

Wilfried K. Bruhns
Senior Engineer

cc: Lewis Mitani, EPA H-7-3
Cyrus Shabahari, DHS-TSCD

ENCLOSURE (2)